BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC 20554

In the Matter of	)	
	)	
High-Cost Universal Service Support	)	WC Docket No. 05-337
	)	
Federal-State Joint Board on Universal Service	)	CC Docket No. 96-45
	)	

COMMENTS OF THE MAINE PUBLIC ADVOCATE

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I. INTRODUCTION

The Maine Office of the Public Advocate ("OPA") hereby submits these commits in response to the Notice of Inquiry ("NOI") released by the Federal Communications Commission ("Commission" or "FCC") on April 8, 2009. The NOI requested that parties comment on four proposals, and on a number of additional issues. Upon reviewing the four proposals, OPA believes that none of proposals provide the FCC with a blueprint for modifying the non-rural mechanism in a way that mechanism would generate sufficient support, and maintain comparable rural/urban rates and services. Therefore, OPA is recommending that the Commission adopt an alternative proposal. The OPA's alternative proposal includes a reasonable urban benchmark, a designation of supported lines, a revised support model, two prerequisites for support eligibility, and a monitoring and reporting system. This comprehensive alternative proposal will provide sufficient support for rural lines, and will maintain comparable rural/urban rates and services.

The OPA also recommends that the Commission obtain the information that it needs to run the Synthesis model by using the best possible inputs available. Those inputs include geo-coded customer locations, wire-center line counts including switched and special access line counts, and current expense information. Such an immediate update of the model could occur in time to determine support for the calendar year 2010. In addition, the OPA urges the Commission to initiate a proceeding that would revise the Synthesis model so that the model would include a minimum spanning tree based on existing roads, and would be based on the current network architectures. Finally, OPA recommends that the Commission maintain its cost-based determination of support, rather than trying to understand and account for the factors that may cause rates to appear to be comparable.

II. AN ALTERNATIVE PROPOSAL FOR NON-RURAL USF SUPPORT MECHANISM

None of the alternative proposals for a Non-Rural USF support mechanisms submitted to the FCC for consideration meet the requirements of the Telecommunications Act of 1996 ("the Act"), or the mandates of the 10th Circuit Court of Appeals remand decisions. Therefore, the Maine Office of the Public Advocate ("OPA") submits an alternative proposal to fulfill the FCC's request to comment on the issues involved in this proceeding.

We are submitting this alternative proposal for a number of reasons. First, an alternative proposal is needed because it is necessary to determine a reasonable urban benchmark and designate the rural lines that will be supported. Second, it is necessary to develop a mechanism sufficient to support the rural lines. Third, in order to ensure that the funds are used to provide revenue associating with rural lines, the carriers should be required to provide broadband service to rural lines. This requirement would also complement an initiative contained in the FCC broadband plan. Fourth, a revised ARMIS report system must be established. The revised plan will allow the FCC and the state commissions to monitor and maintain the Non-Rural mechanism in a timely fashion. Fifth, a joint federal-state line inspection program should be inaugurated. This program would survey the supported lines to determine the service capabilities of those lines. It is envisioned that this program will be financed, in part, by the federal fund.

A. Urban Benchmark

The Act and the 10th Circuit Court decision[1] require the Commission to establish a universal service fund based on the principle that rates for services in rural areas should be reasonably comparable to the rates charged for similar services in urban areas. In order to fulfill that mandate, the FCC has established the Non-Rural mechanism that is based on the relationship

[1] *Qwest Communications Int'l, Inc. v. FCC,* 398 F.3d 1222 (10th Cir. 2005) (*Qwest II).*

between national average cost and state average cost. That mechanism has been criticized on two levels. First, because it is based on "cost" rather than "rates," it is argued that the mechanism has not been designed to fulfill its required task – to insure that the rates for telephone service are affordable. Second, because it is based on the national average rather than an urban standard, the mechanism cannot ensure reasonable comparability between urban and rural rates.

It is difficult to design a mechanism that is based on rate comparisons because of current state rate-making principles. However, it is possible to change the existing mechanism so that the mechanism would ensure rural/urban rate comparability by changing the current national average cost benchmark to a benchmark that reflects the model cost in urban areas. OPA proposes to use the weighted average of cost for Unbundled Network Element (UNE) zone 1 wire centers. Carriers typically designate urban wire centers as being in UNE zone 1. For example, all Verizon DC wire centers are in that carrier's zone 1; for Verizon PA, UNE zone 1 is limited to wire centers that are located in Philadelphia and Pittsburgh; for Quest-MN, UNE zone 1 includes Minneapolis wire centers; and for AT&T-IL, most of the UNE Zone 1 wire centers are located in the Chicago metropolitan area.

The weighted average of cost for Unbundled Network Element (UNE) zone 1 will be determined based on the filed switched access lines counts served in each wire center and the model cost for the wire center. Adopting the UNE Zone 1 weighted average cost is the first step in correcting the Non-Rural mechanism so that it will ensure that there is urban and rural rate comparability.

B. Supported Lines

The current Non-Rural Cost mechanism provides support to many non-rural lines. This occurs because, first, there is no restriction in the mechanism to prevent support from flowing to non-rural lines, and, second, if a state receives a substantial amount of support, it is possible for that support to be associated with lines in suburban areas and small- and medium-sized cities and towns. The fact that some states may receive excessive support is based on the fact that the mechanism is based on the total number of lines in high-cost states rather than on the number of lines in rural areas and high-cost areas. While the support is first directed at high-cost areas, once that task has been fulfilled, any remaining support can be directed towards lower cost areas such as suburban areas and cities and towns in UNE Zone 2. For example, in Mississippi and Alabama, wire centers that are located in UNE Zone 2 receive support. In 2008, USAC disbursed to Mississippi, $203.9 million out of a total of $350.5 million nationally, in high-cost model support.

Providing support to non-rural wire centers contradicts the basic reason for the support and results in providing an overall amount of support that is excessive because it is greater than the amount of support sufficient to meet the requirements of the Act and Court decisions. To correct this problem, the OPA recommends that the Commission limit the provision of high-cost support only to rural wire centers.

C. Sufficiency of Support

Support is sufficient if upon receipt of that support the carrier is able to maintain rate and service comparability among urban and rural carriers. Simply stated, making such a pronouncement is essentially an empty statement unless concrete information is provided that demonstrates that carriers are in fact able to maintain rate and service comparability. Moreover,

this definition of sufficiency includes the requirement to maintain service comparability. Previously, when devising universal service mechanisms, the Commission has neglected the policy principles in the Act that state "Access to advanced telecommunications and information services should be provided in all regions of the Nation; and in particular, rural and high cost areas should have access to telecommunications and information services ...that are reasonably comparable to those services provided in urban areas."[2]

A carrier's ability to maintain reasonably comparable rates is dependent on the cost of service in high-cost rural areas compared to the cost of service in urban areas, and on the carrier's ability to obtain other non-federal universal service revenue to close the gap between the revenue and the cost of service in high-cost rural areas. Hence, it reasonable to determine the amount of support by using a cost comparison rather than a comparison of current rates. However, it is also necessary to account for other revenue opportunities. The requirement to account for other revenue is based on the fact that network used to provide the supported services also provides a large number of other services, including vertical services such as Caller ID and special access services including digital subscriber line (DSL) services.[3] Accounting for those revenues, however, can be difficult because carriers are, in general, selling services in bundles. The customer is quoted a price for the bundle, rather than for each individual service. Moreover, some bundles may include data and video broadcasting services. Hence, it is difficult -- and to a certain extent, arbitrary -- to assign the bundled-generated revenue to individual services, and therefore, it is administratively difficult to directly measure the portion of the bundle revenues that should be considered in determining the carrier's need for universal service support. In the

[2] 47 U.S.C. 254(b)(2)&(3).
[3] While the FCC has unfortunately defined DSL services as information services, the FCC still allows the carriers to count DSL revenue and cost as part of their telecommunications revenue and cost.

alternative, it is possible to devise a mechanism that recognizes and accounts for that revenue without measuring that revenue directly.

The support algorithm contained in high-cost loop (HCL) mechanism as that algorithm was applied to large carriers prior to January 1, 2000, is a mechanism that would account for not only the cost differential but also for other revenue and thus, would be a satisfactory mechanism.[4] The HCL mechanism would be adjusted to include model results. That is, instead of using the national average loop cost as the benchmark, the model mechanism would use the national average model UNE Zone 1 wire center cost. Also, instead of calculating a study-area loop cost, the model support mechanism would compare the benchmark to the wire-center forward-looking cost for wire centers located in the rural UNE zone of each carrier.

The HCL mechanism contains five cost brackets and provides support to the top four brackets with support increasing as cost increases. The brackets are below 115 percent of the benchmark, between 115 percent and 160 percent, between 160 percent and 200 percent, between 200 and 250 percent, and above 250 percent of the benchmark. No support is provided in the first bracket. In the second bracket, support is equal to 10 percent of the cost assigned to that bracket. In the third bracket, support increases to 30 percent. In the fourth bracket support is 60 percent, and in the fifth bracket, support is equal to 75 percent of the cost assigned to the bracket.

The lower brackets provide a small amount of support, reflecting the fact that revenue from other services can fill the gap between the revenue from supported services and the network cost. As cost increases substantially, support increases to 60 and 75 percent in the high cost brackets. That is, in the very high cost areas, it is recognized that revenues from other services will not generate enough money to fill the gap between revenue from supported services and

[4] 47 C.F.R. § 36.631(d)

network cost. The top support percent, 75 percent, recognizes that revenues from subscriber line charges, the Interstate Common Line Support mechanism, and the Interstate Access Support mechanism are responsible for approximately 25 percent of the carrier's cost.[5]

In Appendix A, OPA provides an analysis of the support that would be generated if the Commission were to adopt our recommended non-rural model mechanism. The information on wire-center cost and on line counts is taken from the FCC's public model run.[6] The analysis is limited because relevant information was available for only 73 of the 86 non-rural carriers.[7] Under the recommended mechanism, 70 of 73 analyzed carriers would receive support, and probably a majority of the 13 other carriers would be eligible for support upon supplying the required information. Under current mechanism, only 15 incumbent carriers receive support. Hence, this change will go along way toward ensuring that the fund is sufficient and fairly distributed among states that need such support. The increase in the number of carriers occurs because low-cost carriers serve some rural high-cost areas. For example, both AT&T California and AT&T Florida serve rural high-cost areas, but because their rural areas are not very high cost, those carriers would receive $0.089 and $0.084 per rural line. Also, carriers such as Verizon-Washington and Verizon-Indiana would be eligible for support. Previously, even though they are high cost, these carriers were not support recipients, due to the existence of large

[5] OPA acknowledges the 75/25 allocation only applies to loop cost rather than total company costs. However, in very high cost areas, almost all of the additional cost is related to loop cost, and, the current model support mechanism assumes that the interstate jurisdiction is responsible for 24 percent and the state jurisdictions are responsible for 76 percent of the cost.

[6] http://www.fcc.gov/wcb/tapd/hcpm/welcome.html wirecenter support spreadsheet. These data are based on 1998 line counts and the assignment of lines to wire centers were estimated. As soon as the current lines counts become available to the OPA, we will re-file the support amounts based on those line counts. Obviously the reduction in lines since 1998 would reduce the support. The support would also vary if a model run based on the updated line counts would provide a different relationship between urban and rural cost.

[7] Five study areas do not have UNE zones because they are rate-of-return study areas. A variety of other reasons limited the analysis for 8 other study areas. For example, three Qwest carriers have multiple zones within a wire center. Cost associated with the multiple zones was not included in the wire-center support spreadsheet.

low-cost carriers in their states that drove the Washington and Indiana state-wide average down below the model benchmark.

OPA recognizes that the total support for ILECs would increase by approximately four fold under its recommendation. However, OPA suggests that this increase will not only fulfill the need to maintain comparable rates, but will also allow the carriers the opportunity to satisfy the requirement that they provide comparable services. Moreover, given that initial estimates of model results were in six to ten billion dollar range, the cost of adopting the recommended mechanism is still relatively low.

D. Prerequisites for Obtaining Support

OPA recommends that the Commission adopt two prerequisites for a carrier to obtain model universal support. First, the carrier must prove that the rural rates in its study area are comparable to the national average urban rate. Second, the carrier must develop a broadband service plan under which the carrier agrees to make broadband service available to 98 percent of its customers within six years of the release of the order associated with this notice.

1. Rate Comparability

For one rate to be comparable to another rate, the two rates should be relatively close together, or similar. The "two standard deviations" test is a test to determine when two numbers are significantly different. Thus, where one rate is greater than two-standard-deviations away from another rate, it suggests that the two examined rates are different. However, that test does not inform us as to whether a rate that is less than two standard deviations from the first rate is close to the first rate. As the 10th Circuit Court decision noted, the two-standard-deviations test allows for the existence of large differences between urban and rural rates.

Therefore, OPA recommends that the Commission adopt instead a "one standard deviation" difference between the national average rate and the rate for any supported rural area -- in order to determine whether a carrier is maintaining rates at a comparable level and therefore eligible for model high cost support. According to the FCC's most recent Reference Book, a one-standard-deviation standard would allow a monthly bill to be 121 percent of the national average urban bill.[8] In addition, the Commission has previously adopted -- in its collocation docket[9] -- the one-standard-deviation test for determining whether two numbers where relatively close to each other.

2. Service Comparability

Service comparability requires carriers to make available to its rural customers the same services that are available to its urban consumers. There is substantial evidence that service comparability does not exist today. In urban areas, carriers are upgrading networks so that networks can provide video services. In rural areas of non-rural companies, those upgrades are not occurring.[10] Although the current USF support mechanisms were not designed to subsidize broadband investment, the rural USF support mechanisms have operated as de facto broadband support mechanisms. In contrast, the non-rural mechanisms have not, which, in part, explains

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[8] The standard deviation analysis provided in the Reference book is based on the average urban of $25.62. One standard deviation is $5.45 which is 21 percent of $25.62. The average bill is the sum of the average local rate of $15.62, the average SLC of $5.74 and the average tax and fee amounts of $4.26. See Reference Book of Rates, Price Indices, and Household Expenditures for Telephone Services, Industry Analysis & Technology Division, FCC, 2008, Tables 1.2 & 1.13.

[9] In the Matter of Local Exchange Carriers' Rates, Terms and Conditions for Expanded Interconnection Through Physical Collection for Special Access and Switched Transport, CC Docket No. 93-162, *Second Report and Order*, FCC 97-208, released June 13, 1997, ¶ 68.

[10] Filed reply testimony of Dr. Robert Loube on behalf of the Maryland Office of the People's Counsel, In the Matter of Appropriate Forms of Regulating Telephone Companies, Maryland Public Service Commission, Case No. 9133, August 28, 2008; Testimony of Dr. Robert Loube on behalf of the Maine Office of the Public Advocate in the Joint Application for Approvals Related to Verizon's Transfer of Property and Customer Relations to Company to be Merged with and into Fairpoint Communications, Inc. Maine Public Utilities Commission Docket No. 2007-67 on October 2, 2007

the large discrepancy between broadband deployment results within the territories of rural versus non-rural companies.

The goal of providing video services is reasonable because those types of services are provided to urban consumers. In addition, as discussed in greater detail below, OPA recommends that the forward-looking model should be modified so that the technical constraint used to build the model network is the constraint that the network not block the provision of video services. In the current model network, the technical constraint is merely that the network should not "impede the provision of advanced services",[11] where advanced services were defined in a very limited way.[12]

As a remedy for this shortfall in rural investment, OPA recommends that the Commission adopt the following plan. First, the Commission should require that all non-rural carriers submit an "investment plan" both to the Commission and to the respective state commission within six months following the release of the order associated with this notice. The investment plan should document how the carrier will make video services available to rural consumers within six years following the release of the order. For each year, the plan should also contain interim goals by wire center. Those interim goals must, at minimum, provide specific details as to how the carrier will increase the availability of its video service by 20 percent each year.

Second, OPA recommends that the model support should be reduced in any year following the year in which a carrier does not reach its interim goal. For example, in year two, the interim goal would be that video service is available to 20 percent of the customers. If that goal is not met, then in year three, the support to be awarded to that carrier would be diminished.

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[11] In the Matter of the Federal-State Joint Board, CC Docket No. 96-45, *Report and Order*, FCC 97-157, released May 8, 1997, (Universal Service Order), ¶ 250.

[12] In the Matter of the Federal-State Joint Board on Universal Service, *Fifth Report and Order*, FCC 98-279, released October 28, 1998, (Platform Order), ¶¶ 67-70.

The amount that support is diminished should be proportional to the carrier's failure to meet its goal.

Such a link between the provision of service and support would provide the incentive to invest that is not part of the current support mechanism. Currently, carriers receive funds based on the relationship between model average cost and state average cost. Presently, a carrier can still receive support even if it never upgrades the level of service it is willing to provide, and even if it allows its service quality for basic local exchange service to deteriorate. Right now there exists only an unfocused requirement that the state commission verify that the support funds are used for the purposes for which the support was intended. That general, non-specific requirement allows extensive room for interpretation and abuse. In its place, the Commission must establish direct links between a carrier's provision of broadband services and the support that it will receive. States can and should play an important part in verifying that the carriers have met the interim and final service goals of the plan. However, in order to establish and maintain comparable service in rural areas, the service goals must be explicit and reasonable.

E. Revised ARMIS

OPA recommends that the Commission design and implement a system of revised ARMIS reports that will enable the Commission and the states to monitor and maintain the non-rural fund. First, the 43-01 ARMIS report should be revised to include a row for high-cost universal support revenue, and another row for low-income revenue. Those rows will enable the agencies to monitor specifically the impact of universal service on carrier revenue and earnings. If high-cost universal support revenue leads to a carrier earning excessive returns, that event will serve as an indicator that its amount of support may be more than sufficient for the intended purposes – i.e., excessive. If excessive earnings associated with support payments are recorded

regularly, then it would be the task of the Commission to determine how to reduce the support payments.

Second, each carrier should be required to file a model-inputs report. This report would contain all of the ARMIS type data that is used in the model. The filing of this report would allow the Commission staff to update these inputs each year as the model is re-run. The total number of ARMIS type inputs is unknown, but at a minimum it includes expense and investment data. In addition, current-to-book investment ratios should be included because those ratios are used to calculate forward-looking expenses.[13]

Third, each carrier should be required to file an infrastructure report that will enable the Commission and the states to monitor (a) whether a carrier is meeting its broadband service provision plans, and (b) whether its provision of services is comparable in urban and rural UNE zones. The rows could measure, for example, the number of lines where a particular download speed is available and the columns would show the UNE zones.[14]

F. Monitoring Plan

The high-cost support mechanism recommended by OPA contains an incentive that links support levels to service availability. Therefore, it will be necessary to verify any submissions made by carriers regarding that availability. OPA recommends that state commissions conduct field surveys of rural wire centers in order to verify the technical capabilities of rural wire-center lines. Such a field survey would be based on a reasonable sample of the lines in each supported wire center. OPA further recommends that the federal USF should provide partial compensation

[13] In the Matter of the Federal-State Joint Board on Universal Service, *Tenth Report and Order*, FCC 99-304, released November 2, 1999, (Inputs Order), Appendix D.

[14] It is obvious that other ARMIS reports are necessary for the Commission and the states to perform their work. For example, the failure to retain the 43-03 report and the 43-04 report has made it very difficult for the Federal-State Joint Board on Separations to evaluate the impact of any stakeholder-recommended changes to the current rules.

to the state commissions for the performance of that work in a manner similar to the way in which the federal government provides funds to state commissions so that they can perform gas-pipeline safety work.

III. THE QWEST PROPOSAL

OPA recommends that the Commission reject the Qwest proposal because it is simple and self-serving. That proposal is too simple because it does not contain any incentives that would lead recipient carriers to maintain comparable rates and to extend comparable services in rural areas. Qwest also fails to support its proposed 125-percent benchmark. That is, it does not provide an argument to explain why the125% benchmark is sufficient and should replace the "two-standard-deviations" test -- other than the fact that Qwest will receive substantially more funding with a 125% benchmark. Qwest's proposal is also self-serving because it recommends that the Commission declare Qwest a "smaller carrier," thus making Qwest eligible for additional funding, while recommending that Commission declare AT&T and Verizon too big to receive additional funding.[15] Qwest suggests that the Commission should adopt its recommendation even though AT&T and Verizon serve more rural customers than Qwest, and even though AT&T's and Verizon's rural customers are no less entitled to comparable rates and services than Qwest's rural customers. [16]

[15] The suggestion is a direct inverse of the "too-big-to-fail" standard that has been applied to the banking sector.
[16] Using the FCC's wire-center data file and USAC's UNE zone data, AT&T served approximately 9.6 million rural customers, Verizon served approximately 9.8 million rural customers, and Qwest served approximately 2.1 million rural customers. Because of data problems, the Qwest estimate is the sum of rural lines in 10 study areas plus 20 percent of total lines in Colorado, Idaho, Montana and Wyoming. 20 percent is very high estimate of the percent of total lines that are rural lines because for the 10 Qwest study areas with complete data, rural lines represented only 11 percent of total lines.

A. Review of the Qwest Proposal

Under the Qwest plan, the benchmark for high-cost wire centers is reduced from the standard of "the national average forward-looking cost plus two standard deviations" to the standard of "125 percent of the national average urban rate." Second, Qwest would target the support directly to wire centers that have costs above the benchmark. Hence, the Qwest plan would eliminate the state-wide averaging process contained in the current model mechanism. Qwest estimates that these changes would increase the size of the fund to approximately $1.6 billion. However, if AT&T and Verizon do not receive support, then the amount of model mechanism support will be limited to $402 million. The Qwest proposal would increase the amount of model support received by Qwest from approximately $26 million in 2008 to $200 million. At the same time, AT&T would lose $114 million and Verizon would lose $21 million.

Qwest justifies the need for more support by stressing the fact that the current level of relatively comparable rural and urban rates is no longer sustainable. It provides evidence that rural and urban rates are relatively comparable across its fourteen-state service territory. It shows that 1) four states have state-wide average rates; 2) the urban rate is higher than the rural rate in five states; 3) in four states, the rural rate is slightly greater than the urban; and 4) in only one state, Wyoming, is the rural rate substantially higher than the urban rate. Moreover, in each state Qwest's rural cost of service is substantially higher than rural rate, while the urban rate is greater than the urban cost of service, showing that there is a substantial flow of support from urban residential customer to rural residential customers.[17] Thus, it is clear that rate comparability is dependent on an urban-to-rural subsidy.

[17] It is important to understand, first, that even if the rural network cost is greater than the rural local exchange rate, that fact does not imply that the rural rate is being subsidized. That is because the incremental cost of providing basic exchange service -- even in a rural area -- is small, once the network that provides basic, toll, access, and data services has been built. However, total revenue from the combination of services is generally not high enough to

Next Qwest argues that support from urban customers is no longer sustainable because it claims that competition in the urban areas has finally arrived in full force. That competition -- generally one rival, the local cable company -- has created a situation where urban customers are switching in dramatic numbers to the cable company. While OPA might not describe a duopoly as a competitive market, it is clear that the ILEC is losing market share in certain of Qwest's urban market areas. While the loss of market share may be due to a failure of Qwest to provide a video service offering in those markets, that loss of market share certainly reduces Qwest's ability to sustain an urban-to-rural implicit subsidy. In short, Qwest has made a reasonable argument for changing the current mechanism, even though it has not made a reasonable argument for adopting its plan.

B. Problems With the Qwest Proposal

The major problem with the Qwest plan is that there is no link required between a carrier's receiving support and its maintaining comparable rates and providing comparable services. Under its plan, Qwest could choose whether to use the additional $200 million to provide upgraded services to its urban customers, or to increase its dividend payments. To avoid such problems, OPA's proposal contains comparability standards for reasonable service rates and service offerings. The OPA plan would also monitor carrier profits in order to determine if the enhanced support payments lead to excessive profits. When compared to the Qwest plan, the review of standards and profits proposed by the OPA plan is more likely to lead to the intended result – comparable rates and services. In short, under the OPA plan, it is more likely that the high-cost support would be used for its intended purposes.

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allow for the recovery of the total network cost in rural areas. Thus, it is the rural network that receives the subsidy, not basic exchange service. It is also important to note that urban residential customers help to provide the rural subsidy. The subsidy-flow from the urban residential customers has generally been ignored because the standard myth has been that the subsidy flows only from toll, access and business customers.

Second, the Qwest plan does not recognize, or account for, revenue from other services that use the network. These other revenue streams should also support the network and help fill the gap between basic service revenue and the network cost. The OPA proposal recognizes those revenue streams by providing modest support for wire centers in situations where the model cost is only 15 percent higher than national urban average cost, and by providing substantial support when wire-center cost is more than 200 percent of the national urban average cost. In other words, because of its multi-support levels, the OPA recommendation provides sufficient support to all wire centers. On the other hand, the Qwest plan would provide excessive support to those wire centers where the model cost is greater than 115 percent of the benchmark but less than 200 percent of the benchmark.

IV. THE EMBARQ PROPOSAL

OPA believes that the Embarq proposal contains several worthy components -- such as a requirement to improve rural service offerings and to maintain the urban/rural rate comparability. However, its standard for service comparability, 1.54 Mbps downstream, is backward looking. Any carrier that uses industry standards for determining customer serving areas (CSAs), and for the provision of DSL service, should be able to meet a standard of providing 1.54 Mbps downstream to at least 85 percent of its customers with only minor changes to its current equipment and facilities.[18] Thus, there is little need to provide additional support funding to meet such a low standard of achievement. The fact that some carriers cannot meet that standard reflects on their failure to invest rather then a need for more support. For example, from 1999 to 2007, AT&T's net investment in its wire line carriers decreased by 9.6 percent annually,

[18] ADSL service can provide up to 6.0 Mbps downstream for distances up to 12,000 feet. See the Testimony of Douglas C. Sicker, Ph.D. on behalf of Fairpoint Communications, Inc., Maine Public Utilities Commission Docket No. 2007-67, filed on August 22, 2007.

Verizon's net investment decreased by 7.5 percent annually and Qwest's net investment decreased by 5.6 percent annually.[19] Even more troubling is the fact that that several of the carriers that have received model support are among the carriers with the highest decreases in net investment. For example, for Verizon West Virginia, net investment decreased by 16.7 percent annually from 1999 to 2007, and for Qwest Wyoming, net investment decreased by 12.5 percent annually over the same time period.

A. Review of the Embarq Proposal

The Embarq proposal provides support to the study areas currently served by price-cap ILECs. As such, it shifts many Embarq study areas out of the embedded high-cost loop mechanism (HCL) and into the proposed broadband and carrier-of-last-resort (BCS) mechanism. It would also shift a number of Citizens Frontier study areas out of the HCL mechanism and into the BCS mechanism. A few rate-of-return study areas, such as Anchorage and Surewest, would revert to the HCL mechanism. Second, it eliminates state-wide averaging from the mechanism. Instead, support is determined based on the relationship between the wire-center cost and the benchmark. Remarkably, the benchmark is not defined or pre-set. Instead, the benchmark is established when a particular amount of support dollars has been allocated among wire centers. The total fund size is set at $1 billion. That amount is the sum of the current model and HCL funding received by ILEC price-cap carriers, plus funding that will no longer be received by CLECs. Hence, the Embarq proposal would transfer a substantial amount of support from CLECs to ILECs. Embarq considers this transfer reasonable because it asserts that the fund should focus on supporting the carrier-of-last-of-resort, which in most cases is the ILEC. Furthermore, because that transfer keeps the size of the fund constant, the new mechanism would not increase the burden of paying for universal service.

[19] Source of these estimates is the 43-01 Reports, row 1910, net average investment

Initially, each supported wire center would receive an amount equal to 75 percent of the difference between its forward-looking loop cost and the benchmark, times the number of lines served. The benchmark would be the number which causes the sum of the wire-center support to equal $1 billion. After the initial support level is determined, it would remain in place for five years, without concern about the number of lines served.

Finally, the Embarq proposal includes two requirements that Embarq claims would ensure that its proposal would fulfill the Court's mandate that the mechanism provide sufficient support so that carriers could provide comparable services at comparable rates. First, a carrier would have to maintain its rate for basic local exchange within a range specified by the Commission. If the carrier's rate was below the lower end of the range, the carrier would forfeit support equal to the difference between its rate and the lowest benchmark rate. If its local rate was above the high end of the range, the carrier would not be eligible for support. Second, each carrier would have to pledge that within 5 years 85% of its customers in supported wire centers would be served by facilities that have the capacity to provide downstream data service at a rate of 1.5Mbps.

B. Problems with the Embarq Proposal

The major problem with the Embarq proposal is that its broadband requirement is backward looking and will not meet the requirement that rural consumers should be able to obtain services comparable to the services available to urban consumers. The 1.5Mbps standard can be met by any carrier that is currently providing DSL service. In areas served by digital loop carriers (DLC) connected to wire centers by fiber cable, the 1.5Mbps standard can be achieved by a minor upgrade to the DLC and related central office equipment. Moreover, carriers are now providing urban consumers with either fiber-to- the-home or fiber-to-the-node facilities that

provide significantly more bandwidth than 1.5Mbps and will allow consumers to purchases any number of video services. In five years, it is anticipated that most urban consumers will be served by those new facilities. Thus, according to the Embarq proposal, in five years rural consumers will still be in an underserved backwater, even if the carriers achieve Embarq's limited broadband goals. Any effort to improve the universal service program should involve more than simply providing consumers with out-of-date services. As the Court noted, the universal service mechanism should be designed to enhance universal service. To that end, OPA recommends that the broadband requirement should include the ability to receive high-speed video services. Specifically, such a requirement would include the ability to receive IPTV signals.

Second, the Embarq proposal does not address the Court's concern regarding the sufficiency of the fund. The proposal merely sops up whatever existing funding might be available. It does not compare the available funds to the cost of meeting its broadband requirement. Instead, it acknowledges that the available funds are completely inadequate to meet any broadband requirement that is more advanced than 1.5Mps (see the Embraq whitepaper, page 33). In addition, the Embarq proposal does not compare the fund size to a requirement that the fund be designed to preserve comparable rates. To perform that task, fund must be large enough to fill the gap between revenues -- including revenues from all services that use the network -- and the urban cost benchmark.

Third, it should be noted that the Embarq proposal generates an enormous increase in universal service funds for Embarq. Currently, only a three of 23 Embarq study areas with approximately four percent of Embarq's lines are high-cost areas, as defined by HCL

mechanism. Yet, Embarq receives approximately $14 million in HCL support.[20] Under Embarq's proposal, Embarq would receive approximately $101 million.

V. COSTQUEST COMMENTS

The CostQuest comments contain a mix of recommended forward-looking model improvements, together with an incantation of various ancient policy orthodoxies. Those orthodoxies -- such as "cost models are objective" and "policy models are subjective" --should be ignored because it is well known that every cost model rests on a set of subjective policy decisions, and every policy model contains many objective functional relationships. Likewise, rate-of-return regulation contains positive incentives to invest. Rate-of-return regulated carriers have a vastly superior record in providing broadband service in rural areas, compared to price-cap regulated carriers. Also, even though price-cap regulation provides carriers with the incentive to reduce waste and eliminate gold-plating, those same incentives can also lead to a degradation of service and a failure to invest.

On the other hand OPA agrees with CostQuest's recommendation that the Synthesis Model should be updated. While the need to upgrade is very important, OPA wishes to warn the Commission that the process of upgrading the model should be conducted by the Commission Staff. That is, with its expertise, the Staff should evaluate the alternative models, seek input from other parties, and stitch together a new Synthesis Model. The new model could incorporate parts of other models in the way the current Synthesis Model incorporates part of the HAI model. Or the Staff could develop parts of the model internally. It should be remembered that the Staff

[20] Source: NECA file US2008LC08.xls, http://www.fcc.gov/wcb/iatd/neca.html

initiated the use of spanning trees prior to the use of that algorithm by any other carriers or by consultants working for carriers.

To facilitate a comparison of existing models, OPA agrees with Costquest that a common set of inputs should be created. Those inputs should be used to generate outputs by the current Synthesis and all alternative models. It is also important to place the source code of all alternative models in the public domain, so that all interested parties can be granted the option to run the models for the purposes of participating in this proceeding. With this information and the right to run the alternative models, all parties would have the ability to provide the Commission with useful comments regarding the best and worst aspects of each model. OPA acknowledges that comparing the existing models and creating a new Synthesis model are a time-consuming yet worthy undertakings. Nevertheless, the fact that those tasks will take some time should not prevent the Commission from re-running the existed model with updated inputs. Therefore, OPA urges the Commission to update the inputs and to re-run the model. In its discussion (below) of the other Costquest model recommendations, OPA will point out how it is possible to update the model inputs.

A. Technology

Costquest notes that the technology underlying the Synthesis model is now out of date because the technological basis of the model was formed around the constraint that the model should not block advanced services and implemented by using a loop design that didn't rely on load coils, didn't contain bridge taps, and limited the maximum copper loop to 18,000 feet. To replace that technological foundation, Costquest suggests that the model adopt at a minimum, a Fiber-to-the-Node (FTTN) approach and compare wireline to wireless solutions. OPA agrees that there is a need to change the technological foundation of the model. We stress that the new

constraint should be built around a decision that the model should not block video services. OPA also recommends that only one wireline technology should be incorporated into the model because the model is being used to provide support. The use of alternative templates may bias the outcome. For example, if one carrier uses Fiber-to-the-Home (FTTH) loop architecture and another uses a FTTN loop architecture, then the first carrier would appear to have higher cost than the second carrier and therefore, obtain more support.

In addition, given the huge increase in Special Access lines and because of the economies of scope associated with the provision of Special Access and Switched Access, it is necessary to review and improve the Synthesis model's assumptions concerning the construction of Special Access lines. In the current Synthesis model, Special Access lines are either DS-1 or DS-3 lines, and in the distribution portion of the model, these lines are provided over copper. Obviously, there is a need to incorporate a greater variety of Special Access offerings into the model. Where appropriate, fiber cable rather than copper cable should be used in the distribution portion of the model.

Finally, given the fact that many of the inputs required to construct a wireless network have never been placed in public domain and reviewed in a proceeding, OPA is reluctant to support the use of the wireless alternative at this time. If the Commission were to organize and release the data it receives under its wireless ETC rules, OPA and other parties might gain a minimum level of understanding of wireless cost, and perhaps would then be able to support the use of the wireless alternative.

B. Minimum Spanning Road Tree

OPA agrees with Costquest that a minimum spanning road tree should be used to determine the routing of the wireline distribution, feeder and transport networks. That algorithm

will generate a least-cost network that is possible to construct. In the current Synthesis model, the minimum spanning tree would generate a least-cost network, but it might not be able to construct such a model because of natural and man-made obstacles. Moreover, the road tree would recognize the variance in costs associated with the different road topologies that exist in the United States.

C. Modeling Inputs

OPA does not agree with Costquest's position that modeling inputs should account for all of the unique attributes of the service area. Such an assumption would require the model to adopt too many of the embedded cost estimates that carriers enter into their proprietary models. Instead, the model should reflect the least-cost method of providing service given any attributes that are beyond the control of the individual carrier. That is, if weather causes differences in aerial cable expenses, then weather-adjusted estimates of the aerial cable expense factor can be used. However, in the past, the Commission staff had a very difficult time attempting to estimate such adjustments. Due to that difficulty, the Synthesis model contains many national average inputs. OPA recommends that the Commission retain those national averages for the purposes of re-running the model in the immediate future. Also, OPA recommends that, as part of a longer term investigation, the Commission investigate ways to determine the least-cost estimate of those expenses.

D. Line Counts and Customer Locations

The Commission currently receives quarterly switched access lines counts. Those line counts are used to determine support and can be used as inputs to the model.[21] With regard to special access, total carrier voice-grade equivalent lines counts (as reported in the ARMIS reports) are assigned to wire centers on the basis of a 1998 data request.

[21] It is our understanding that December 20002 line counts were used the last time the model was run.

Switched Access customer locations are based on a PNR national access-line model, census household data, and a road surrogate algorithm used to place that data uniformly along roads in census blocks.[22] Special access lines are assigned to particular customer locations based on a Synthesis model algorithm.

When it adopted the customer location algorithm, the Commission found that the preferred method of determining customer locations was to obtain the actual geo-coded customer locations from the carriers.[23] At that time, the Commission concluded that it could not obtain the relevant information from the carriers. However such information is now regularly maintained and available for the carriers. In several cases, parties have been able to obtain the geo-coded customer information from carriers. Appendix B contains the data request that AT&T propounded on Verizon, and that Verizon responded to in the Verizon California UNE case. That data request became a template for securing similar information in other cases.[24] Given that carriers are maintaining the relevant geo-coded customer location data for both switched and special access lines, OPA recommends that the Commission secure that information once a year in conjunction with the carriers filing of their December lines.[25] OPA further recommends that the newly obtained customer location data, together with December line counts, should be immediately entered into the Synthesis model, and used to re-run the model. Such action will enhance the accuracy of the model output, and does not have to wait for the Commission to adopt a revised Synthesis model.

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[22] Inputs Order, §§ 36-62.
[23] Id., § 36.
[24] CLEC Data Request No. CL-VZN-049, MI PSC Case No. U-15210; Staff Data Request No. 2-2, DE PSC Docket No. 08-194; OCA Data Request Set III-2, PA PUC Docket NO. I-00040105.
[25] The December line counts filed on July 31 of the following year. 47 C.F.R. 36.611(h).

E. Equipment Costs

The Commission adopted costs associated with the purchase of equipment and facilities in November 1999.[26] The adopted costs most likely reflect actual 1998 equipment and facility cost. Obviously, those costs are out of date. The OPA recommends that the Commission adopt a two-step approach to update the equipment and facilities costs. First, the Commission can trend those costs into current values by using the C.A. Turner Telephone Plant Indices. These Indices are commonly used by telephone carriers. The new cost values, along with the new line counts and customer-location data could be used to generate an immediate model run. Second, the Commission should obtain information regarding the current prices of the equipment and facilities used by the model. Given the Commission's work load, OPA recommends that every three years the Commission obtain the prices of the equipment and facilities used in the model, and during the intervening years, use the Plant Indices to update these costs.

VI. COMMENTS OF THE VERMONT PUBLIC SERVICE BOARD, THE VERMONT DEPARTMENT OF PUBLIC SERVICE AND THE MAINE PUBLIC UTILITIES COMMISSION (VERMONT-MAINE)

The Vermont-Maine comments identify a number of important issues. In particular, those comments attempt to define a reasoned starting-point for determining support, i.e., the net subscriber cost methodology. However, because of substantial data problems, the OPA recommends that theCommission not adopt the net subscriber cost methodology. Importantly, the Vermont-Maine comments highlight the need to support not only rate comparability, but also service comparability. The Vermont-Maine comments point out that the current forward-looking mechanism does not provide carriers with an incentive to provide advanced services to consumers. Hence, the current forward-looking mechanism must be modified in order to create

[26] Inputs Order.

an incentive to provide advance broadband services. OPA agrees with the Vermont-Maine observations regarding broadband services and urges the Commission to adopt the OPA recommendations and establish a broadband service provision prerequisite for obtaining model support.

A. Net Subscriber Cost Methodology

The Vermont-Maine comments define the net subscriber cost as the difference between total cost and other revenue, divided by switched access lines. According to the comments, total cost could equal total network embedded or total network forward-looking cost. Other revenue is all non-basic local exchange revenue. Other revenue includes net intercarrier revenue, special access revenue and customer revenue for non-USF services such as Caller ID or Call Waiting. Support would be a function of the difference between a carrier's net subscriber cost and a benchmark. The purpose of the net subscriber cost calculation is to establish a net amount that would need to be supported from universal service funds. It is calculated as 'cost net of revenue from other services' because the revenue from other services that use the network should be relied upon to pay for the network before requesting universal service funding. The Vermont-Maine comments argue that, as compared to a rate comparison, it is preferable to use the net subscriber cost estimates -- because a rate comparison can be biased by a number of state rate actions, such the level of access charges, the size of the calling area, contribution from state toll services, the amount of broadband service cost collecting through local rates, and any requirements to bundle vertical features with basic service. While we agree with the Vermont-Maine comments that local rates should not be the starting point for support calculations -- due to the fact that rates are affected by decisions regarding the list of items provided by the comments -- we need to point out that other revenue used to determine the net subscriber cost is also

affected by those same concerns. That is, if loop cost is assigned to local service, then a carrier could reduce the revenue from DSL service. If some vertical services are included in the basic package, then the amount of vertical service revenue is affected. If an affiliate of a carrier is providing video services, it is necessary to determine the rate that video affiliate should pay the carrier for the use of the loop; and if local and other services are bundled together then it is necessary to make an administrative decision on how much of the bundle revenue should be counted as other revenue. For these reasons, OPA asserts that it will be administratively extremely difficult to adopt the net subscriber methodology plan. Instead, OPA has recommended adopting the HCL loop support algorithm for large carriers. That algorithm, in principle, recognizes, if imperfectly, revenue from other services. More importantly, it is administratively easy to adopt and use. Hence, the OPA's recommendation recognizes the same issues that the net subscriber cost methodology was designed to address. However, the OPA recommendation can be implemented easily, whereas the Vermont-Maine recommendation is difficult, if not impossible, to implement.

B. Service Comparability

OPA agrees with the Vermont-Maine comments regarding the need to address service comparability. Furthermore, OPA agrees with the suggestion in those comments that the model support mechanism creates lag in the provision of advanced services because "when a non-rural carrier upgrades loop or feeder plant to provide DSL, none of the model inputs is affected and the company must recover all incremental costs from the consumers. Consequently, non-rural carriers have an incentive to derive as much revenue as possible from existing plant, rather than to upgrade to provide access to advanced services."[27] Moreover, OPA has also observed that rural Maine companies have significantly more DSL deployment in Maine than

[27] Vermont-Maine Comments, March 27, 2006, page 13.

Verizon/FairPoint. A similar pattern has also been observed in Michigan, and we believe that pattern is the same across the United States.[28]

To ensure that service comparability will be achieved, OPA has recommended that a service comparability prerequisite be added to the model mechanism. The Vermont-Maine comments include a rationale and evidence that supports the OPA recommendation.

VII. SHOULD THE COMMISSION DEFINE REASONABLE COMPARABILITY BY USING COSTS (OR COSTS AND REVENUE) AS A PROXY FOR RATES? IF SO, HOW CAN WE EXPLAIN THE RELATIONSHIP BETWEEN COSTS AND THE RESULTING RATES TO THE SATISFACTION OF THE COURT?

The OPA recommends that the Commission should define reasonable comparability by using costs and revenue, rather than relying on rates. The rationale for using costs and revenue is that rate comparability depends on the ability to offset cost differentials with either with universal service funds, or with revenue from other sources. Since the passage of the 1996 Telecommunications Act, the history of rate comparability has been one of substituting explicit universal support flows for implicit support flows. That is, rate comparability prior to the Act was maintained mostly through rate averaging at the state and federal levels supplemented by access charge revenue and a small but significant universal service program. Since the Act, support from federal access charge revenue has been transferred into the Interstate Common Line Support (ICLS) and the Interstate Access Support (IAS) mechanisms.

Support from rate averaging still exists at the federal and state levels. At the federal level, rate averaging appears in the form of maintaining the SLC rate per study area for all

[28] Initial testimony of Dr. Robert Loube on behalf of TelNet Worldwide, Inc., ACD Telecom, Inc., TC3 Telecom, Inc., Michigan Access, Inc., JAS Networks, Inc., DayStarr, LLC, Clear Rate Communications, Inc., and Arialink Telecom. (the "CLECs"), In the matter on the Commission's own motion, to review the total element long-run incremental costs and the total service long-run incremental costs for Verizon North Inc. and Contel of the South, Inc. d/b/a Verizon North Systems, to provide telecommunications services, Michigan PSC Case No. U-15210, filed April 7. The FCC staff can confirm this pattern by analyzing the Form 477 data.

residential and single-line business customers. This one-rate policy has been maintained by carriers even though the carriers have the right to de-average SLC rates. The Commission anticipated that that de-averaging would occur when it allowed the residential and single-line business rate cap to increase to $6.50.[29] During that proceeding, it was shown that where the SLC rate was greater than the SLC cost, residential and single-line business customers provided carriers with revenue above cost of $1.13 billion; and in areas where the SLC rate was below the SLC cost, revenues were less than cost by $472 million. Thus, under rate averaging, low-cost customers completely covered the revenue needs of high-cost customers, and supplied the carriers with an additional $641 million of revenue to use for other purposes.[30]

At the state level, state rate-making principles include average rates for all customers within each study area, rates increasing with the number of customers in the local calling areas (value of service pricing), and small rate increases associated with high-cost areas. In our experience, only one state, Wyoming, has substantially higher rates in rural areas than in its non-rural areas. In Pennsylvania, for example, the Verizon-Pennsylvania's basic local service residential rates in Philadelphia and Pittsburgh are either $16.06 or $16.36. In all areas of the state, rates vary from $11.69 to $15.14, with the lower rates associated with the more rural areas and the higher rates associated with the suburbs in the metropolitan areas and the medium-sized cities. A comparison of Verizon-Pennsylvania rates to the Synthesis model cost is shown in Appendix C. The rate curve has a gradual upper drift, while the cost curve exhibits very high cost in rural areas, declining sharply and becoming flat at a cost slightly below the rate curve in

[29] See 47 C.F.R § 69.104(r); and In the Matter of Cost Review Proceeding for Residential and Single-Line Business Subscriber Line Charge (SLC) Caps and Access Charge Reform, CC Docket No. 96-262, *Order*, FCC 02-161, released June 5, 2002 (SLC Costing Order), ¶ 18.

[30] In the Matter of Access Charge Reform, CC Docket No. 96-262, Comments of the National Association of State Utility Consumer Advocates (NASUCA), filed January 24, 2002, pages 42-43.

the urban areas. The upshot of that relationship is that urban customers are supporting rural customers.

Rate averaging and value-of-service pricing can support rate comparability when there is a monopoly provider of local service. However, if alternative providers of local service enter the low-cost areas, the support flow generated by rate averaging and value-of-service pricing would no longer be sustainable. These principles were the rationales for changes in many universal service programs. But, because of the ILEC line growth that occurred immediately following the passage of the Telecommunications Act of 1996 and the boom and bust of UNE-P competition, rate averaging appeared to be sustainable. Currently, however, an alternative provider -- the cable telephone company -- appears to be making significant inroads into the basic service market. ILECs are losing market share. Therefore, it has now become necessary to move away from rate averaging as the support for rate comparability, and to increase the size of the universal service fund. That increase should be sized according to the cost differential between urban and rural areas, while also taking into account alternative revenue flows that should also support network costs. Thus, it is the cost differentials that must be the immediate basis for determining support. Moreover, while it is theoretically correct to measure the alternative revenue flows directly and subtract those alternative revenue flows from the cost differential – as the OPA has noted above -- there are many administrative difficulties in measuring the alternative revenue flows. Therefore, in order to consider those alternative revenue flows, OPA has recommended that the Commission adopt the HCL loop large-carrier support algorithm.

VIII. CONCLUSION

For the foregoing reasons, the Maine Office of Public Advocate recommends that the Commission modify the non-rural support mechanism as specified in these comments.

Respectfully submitted,
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Dated: May 8, 2009

APPENDIX A

State	SAC	NON-RURAL STUDY AREAS	rural lines	support per line	total support
NC	230491	N.ST. DBA N. ST.COMM	-	-	-
ak	613000	ACS OF ANCHORAGE	-	-	-
AL	259789	CENTURYTEL-AL-NORTH	7,527	57.83	5,223,600
AL	259788	CENTURYTEL-AL-SOUTH	6,718	55.55	4,478,368
AL	255181	SO CENTRAL BELL-AL	61,047	28.32	20,748,276
AR	405211	SOUTHWESTERN BELL-AR	60,432	25.91	18,787,232
AZ	455101	QWEST CORP-AZ	158,661	7.06	13,434,520
CA	542302	VERIZON CA(CONTEL)	155	316.71	589,073
CA	542319	VERIZON-CA (GTE)	907	60.59	659,432
CA	545170	PACIFIC BELL	1,272,051	0.89	13,657,060
CA	542334	SUREWEST TEL.	-		-
CO	465102	QWEST CORP-CO	-		-
CT	135200	SOUTHERN NEW ENGLAND	207,978	1.89	4,726,982
DC	575020	VERIZON WA, DC INC.	-	-	-
DE	565010	VERIZON DELAWARE INC	101,020	1.78	2,153,313
FL	210328	VERIZON FLORIDA	329,909	0.49	1,934,734
FL	215191	SOUTHERN BELL-FL	627,102	0.84	6,349,693
GA	225192	SOUTHERN BELL-GA	365,156	5.55	24,340,928
HI	623100	HAWAIIAN TELCOM, INC	3,593	22.44	967,685
IA	355141	QWEST CORP-IA	155,089	2.49	4,628,224
ID	475103	QWEST CORP-ID	-	-	-
IL	341036	VERIZON N-IL(CONTEL)	30,781	24.89	9,192,513
IL	341015	VERIZON NORTH-IL	93,361	26.42	29,600,493
IL	345070	ILLINOIS BELL TEL CO	655,059	0.51	4,012,773
IN	320779	VERIZON N-IN(CONTEL)	129,571	9.35	14,540,730
IN	320772	VERIZON N-IN	110,035	14.25	18,822,267
IN	325080	INDIANA BELL TEL CO	629,008	0.81	6,144,866
KS	415214	SOUTHWESTERN BELL-KS	142,752	6.90	11,814,059
KY	265061	CINCINNATI BELL-KY	15,964	15.92	3,050,070
KY	269690	WINDSTREAM LEXINGTON	19,845	33.64	8,009,854
KY	265182	SO CENTRAL BELL-KY	304,042	12.05	43,971,854
LA	275183	SO CENTRAL BELL-LA	117,603	29.04	40,984,650
MA	115112	VERIZON MASS.	194,043	1.53	3,556,515
MD	185030	VERIZON MARYLAND INC	342,828	1.52	6,264,097
ME	105111	NORTHERN NEW ENGLAND TELEPHONE OPERATIONS L	329,656	5.70	22,543,844

State	SAC	NON-RURAL STUDY AREAS	rural lines	support per line	total support
MI	310695	VERIZON NORTH-MI	682,745	3.03	24,838,375
MI	315090	MICHIGAN BELL TEL CO	1,194,036	1.16	16,556,482
MN	365142	QWEST CORP-MN	597,201	0.89	6,403,853
MO	429784	CENTURYTEL-MO CEN	1,733	38.47	800,040
MO	429787	CENTURYTEL-MO SW	20,892	49.99	12,531,604
MO	425213	SOUTHWESTERN BELL-MO	198,069	10.69	25,403,033
MS	285184	SO CENTRAL BELL-MS	94,292	27.67	31,303,829
MT	485104	QWEST CORP-MT	-	-	-
NC	230509	VERIZON S-NC(CONTEL)	25,958	19.77	6,157,827
NC	230479	VERIZON SOUTH-NC	614	19.63	144,606
NC	235193	SOUTHERN BELL-NC	109,851	8.23	10,850,510
ND	385144	QWEST CORP-ND	11,941	26.13	3,743,513
NE	371568	WINDSTREAM NE	92,153	15.63	17,289,669
NE	375143	QWEST CORP-NE	39,974	23.73	11,382,927
NH	125113	NORTHERN NEW ENGLAND TELEPHONE OPERATIONS L	114,033	9.37	12,816,811
NJ	165120	VERIZON NEW JERSEY	1,797,388	-	-
NM	495105	QWEST CORP-NM	1,400	94.77	1,592,129
NV	552348	EMBARQ (NV)	3,852	50.22	2,321,556
NV	555173	NEVADA BELL	12,362	111.09	16,479,984
NY	155130	VERIZON NEW YORK	3,018,586	0.20	7,199,394
NY	150121	FRONTIER-ROCHESTER	-	-	-
OH	305062	CINCINNATI BELL-OH	24,540	4.09	1,204,065
OH	300615	VERIZON NORTH-OH	17,645	37.52	7,943,594
OH	305150	OHIO BELL TEL CO	658,112	0.78	6,158,997
OH	300665	WINDSTREAM OH	-	-	-
OK	435215	SOUTHWESTERN BELL-OK	300,766	3.21	11,599,662
OR	532416	VERIZON N'WEST-OR	-	-	-
OR	535163	QWEST CORP-OR	10,284	40.33	4,977,542
PA	175000	VERIZON PENNSYLVANIA	1,624,889	0.55	10,653,438
PA	170169	VERIZON NORTH-PA	258,081	2.84	8,780,234
PR	633200	P R T C - CENTRAL	-	-	-
PR	633201	PUERTO RICO TEL CO	-	-	-
RI	585114	VERIZON RHODE ISLAND	67,664	1.03	835,567
SC	240479	VERIZON SOUTH-SC	-	-	-
SC	245194	SOUTHERN BELL-SC	149,198	4.34	7,764,784

State	SAC	NON-RURAL STUDY AREAS	rural lines	support per line	total support
SD	395145	QWEST CORP-SD	131,265	1.29	2,027,685
TN	295185	SO. CENTRAL BELL -TN	457,487	4.34	23,848,522
TX	442154	GTE-SW VERIZON-TX	32,685	39.32	15,423,783
TX	442080	GTE SW VERIZON-TX	54,159	45.68	29,689,148
TX	445216	SOUTHWESTERN BELL-TX	1,520,267	1.13	20,607,715
UT	505107	QWEST CORP-UT	161,331	0.42	822,180
VA	195040	VERIZON VIRGINIA INC	364,482	6.66	29,142,937
VA	190233	VERIZON S-VA(CONTEL)	141,970	15.75	26,827,972
VT	145115	TELEPHONE OPERATION COMPANY OF VERMONT LLC	84,936	19.64	20,016,427
WA	522416	VERIZON N'WEST-WA	8,196	43.96	4,323,673
WA	525161	QWEST CORP-WA	73,741	11.32	10,021,372
WA	522449	VERIZON N'WEST-WA	-	-	-
WI	330886	VERIZON NORTH-WI	209,238	11.75	29,513,737
WI	335220	WISCONSIN BELL	501,154	0.42	2,549,192
WV	205050	VERIZON W VA INC.	187,418	16.33	36,733,327
WY	515108	QWEST CORP-WY	-	-	-
		Total	21,528,481		864,469,401

APPENDIX B

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Rulemaking on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish A Framework for Network Architecture Development of Dominant Carrier Networks	Rulemaking 93-04-003 (Filed April 7, 1993)
Investigation on the Commission's Own Motion into Open Access and Network Architecture Development of Dominant Carrier Networks	Investigation 93-04-002 (Filed April 7, 1993)

(Verizon Permanent UNE Phase)

FIRST SET OF DATA REQUESTS OF AT&T COMMUNICATIONS OF CALIFORNIA, INC. AND WORLDCOM INC. TO VERIZON CALIFORNIA, INC.

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FIRST SET OF DATA REQUESTS OF
AT&T COMMUNICATIONS OF CALIFORNIA, INC.
AND WORLDCOM INC. TO
VERIZON CALIFORNIA, INC.

AT&T Communications of California, Inc. ("AT&T") and WorldCom, Inc. ("WorldCom") hereby submit their 1st set of data requests to Verizon California, Inc. ("Verizon") in the above-captioned proceeding. Please provide any objections to, and an indication of whether Verizon will respond to, these data requests no later than March 27, 2003. Please provide full and complete responses to these data requests no later than April 3, 2003.

I. DEFINITIONS AND INSTRUCTIONS

A. Definitions

Unless a specific request indicates otherwise, the following definitions are applicable in providing the requested information:

1. "Verizon" means Verizon California, Inc., its subsidiaries, affiliates and parent companies, agents, servants, attorneys, investigators, employees, ex-employees, other representatives, individuals providing declarations or testimony on behalf of Verizon, and others who are in possession of, or who may have obtained information for or on behalf of, any of the above-mentioned persons or entities.

2. "You," "your" or "your organization" means Verizon and includes every person and/or entity acting with or on behalf of the person or entity to whom the data requests are directed, including, without limitation, all parent, subsidiary, affiliate, and other corporations of Verizon.

3. "Describe," when used with respect to an occurrence, event, activity, or any transaction, means to provide a complete and detailed list of its nature, its time and place and to identify the persons present and involved. The term "describe," when used with respect to a document, means to provide a complete and detailed description of its nature and contents. The term "describe," when used with respect to a communication other than a document, means to provide a complete and detailed description of its nature and contents.

4. "Document," "documents" and/or "documentation" means all written, recorded or graphic matters, however produced or reproduced, whether or not privileged. This definition includes, but is not limited to, any and all originals, copies, or drafts of any and all of the following: records, notes, electronic mail, summaries, schedules, contracts or diaries, reports, forecasts or appraisals, memoranda of telephone or in person conversations by or with any person, or any other memoranda, letters, telegraphs, telexes or cables prepared, drafted, received or sent, tapes, transcripts or recordings, photographs, pictures, or film, computer programs, retrievable information in computer storage, computer data, or other graphic, symbolic, recorded or written materials of any nature whatsoever. Any document or documentation which contains any comment, notation, addition, insertion, or marking of any kind which is not part of another document, or any document or documentation which does not contain any comment, notation,

addition, insertion, or marking of any kind which is part of another document, is to be considered a separate document. This definition includes, but is not limited to, all "documents" as defined in California Evidence Code Section 250. All electronic mail and any other retrievable information in computer storage should be produced in printed form. Verizon should specify any instances where it withholds material that it does not consider to be a "document" and/or "documentation."

5. "Identify," "identity" or "identification," when used in reference to a document, means to state the type of document (e.g., computer stored information, microfilm, letter, memorandum, policy circular, minute book, telegram, chart, etc.), or some other means of identifying it, its present location and custodian, a description and the date on which it was made, prepared or received. The term "identify" when used with respect to an individual means to state the person's full name, present position and business affiliation, the current business address and telephone number, or if not known, the person's current home address and telephone number (if unknown, then last known address and telephone number). The term "identify" when used with respect to a business entity means to furnish the business entity's name and address.

6. "Person" means, in the plural as well as the singular, any natural person, association, partnership, corporation, or other form of legal entity, including all representatives of any such person.

7. "Refer to" or "relate to," or any form of those words, means to analyze, appraise, assess, characterize, comment on, concern, consider, constitute, contain, deliberate, delineate, describe, discuss, embody, evaluate, evidence, explicate, identify, memorialize, mention, substantiate, refer to, pertain to, recommend, record, reflect, report on, set forth, show, summarize, or study, in whole or in part, the subject matter of the request.

8. "The Act" as used herein shall mean the Telecommunications Act of 1996.

B. Instructions

1. In response to each data request, furnish all information in the possession, custody or control of Verizon including, but not limited to, information possessed by your attorneys and any other person or entity acting in your interest or on your behalf, and not merely information known of your own personal knowledge.

2. In response to each data request, please restate the entire data request on an individual page preceding the information or document(s) responsive to that request.

3. If any document is withheld on the ground of privilege, please produce a log setting forth the date of the document, the author(s), the recipient(s), a summary of the document generally describing its contents, the basis for the privilege asserted, and such additional information as is necessary to demonstrate the privileged nature of the document.

4. Identify each person providing information used in answering each data request. Such information shall include the full name, present business address, occupation title, employer and organization for each such person. Please also indicate the information provided by each identified person.

5. These data requests shall be deemed to be continuing in character so as to require supplementary answers to the requests and further production of documents if you obtain additional information or documents between the initial production or response and the time of hearing.

6. Where the response includes documents please supply both paper and **electronic formats** when available. When a request pertains to one or more cost studies and asks for original source documents and complete underlying work papers, please provide support for all the underlying assumptions, including subject matter expert opinions and any underlying source documents relied on or referred to by them, relied on or referred to in any way to support the inputs and/or outputs of the study. When the request calls for data and that data is maintained in a database, please include the database, all queries run against the database, all extracts from the database and documentation that explains the meaning of the data (*i.e.*, documentation that describes the meaning of the various fields in the database, all acronyms used, etc.). If data is available in an electronic format, such data should be provided in an electronic format that allows data manipulation (*e.g.*, spreadsheet, database, not pdf).

7. If any material or information is redacted from a document please so indicate on the document and in your written response. Please produce a log identifying the document, generally describing the redacted material, providing the basis for the privilege asserted, and providing such additional information as is necessary to demonstrate the privileged nature of the redacted material.

DATA REQUESTS

Data Request No. 1: For ALL loops that are part of Verizon's outside plant in California, regardless of service type (i.e., regardless of whether the loop is Verizon's retail service, private line, special access, Official Company Service, UNE, wholesale, etc.), please provide the data described below. Please provide the requested data in a single file, preferably in database format. Please note that the file should include a unique record of the number of lines for each customer/location for each service type. I.e., If a single customer has multiple services, please identify each service on a separate line identified with the same CustomerID. Please also note that each loop should be reported once and only once.

The following data should be produced for each loop, in the following fields:

Name	Field Format	Description
CustomerID*	Alphanumeric	Customer identification for rolling up records. Could be name or other identification.
Street	Alphanumeric	Street address (service address)
City	Alpha	Fulll city name
State	2 letter abbreviation	State
Zip	5 digit numeric	Zip code
CLLI	8 digit alphanumeric	Serving wire center that loop physically terminates at as an 8 digit CLLI code. For foreign exchange lines, the CLLI should be for the location of the physical termination of the loop on the MDF or its equivalent – not the wire center that is providing dial tone.
Switched	True/False	Logical identifier indicating if the service is a switched service (switched = true, nonswitched = false)
FX Indicator	True/False	Logical identifier indicating if the service is a foreign exchange service (fx = true, otherwise = false)
Special Access Indicator	True/False	Logical identifier indicating if the non-switched service is a special access service (special access = true, otherwise = false)
IOT Indicator	True/False	Logical identifier indicating if the service requires Verizon interoffice transport (including UNE transport) (requires IOT = true, otherwise = false)
Fiber Premise Terminator Indicator	True/False	Logical identifier indicating if the service terminates on fiber at the customer premises (terminates fiber at the customer premises = true, otherwise = false)
Intra-building Indicator	True/False	Indicates whether the FDI (feeder-distribution interface) serving the customer is within or immediately adjacent to the building within which the customer is located such that the distribution cable is non-existent or consists entirely of intra-building wiring. (Intra-building wiring /no

Name	Field Format	Description
		distribution = true; distribution = false).
Distribution Facility Indicator	True/False	When the Intra-building indicator is true, indicates whether Verizon-owned intrabuilding cable is part of the service. (Verizon owned = true; otherwise= false.)
Multiple Service Indicator	True/False	Logical identifier applicable to services terminating fiber at the customer premises that indicates if the same physical terminating fiber(s) are used to carry multiple services (fiber terminating at the customer premises carriers multiple services = true, otherwise = false)
DSL Indicator	True/False	Logical identifier indicating if DSL services are provided on the loop in combination with POTS. (DSL = True; no DSL=not true).
NlinesType	Numeric	Number of lines for this Ltype for this customer and location
Ltype	Alpha	Service type indicator. Indicate which of descriptions a-y below identifies the type of service provided on the loop.

* Service type indicator (Verizon can use any unique numeric indicator for each of the following service types as long as it provides a key to those indicators):

a. Switched Basic Residential lines (all voice grade service lines including retail, UNE (all types including UNE-P) and resale and including lines with DSL service and POTS on the same loop)
b. Switched Basic Business lines (all voice grade service lines other than Centrex lines including retail, OCS, UNE (all types including UNE-P) and resale and including lines with DSL service and POTS on the same loop)
c. Centrex lines
d. Switched digital lines at below DS-1 rates (if more than one service rate is provided, identify each rate provided and indicate which rate is applicable to the corresponding loop).
e. Switched DS-1 lines served by conventional T1 technology (other than ISDN PRI)
f. Switched DS-1 lines served by HDSL (other than ISDN PRI)
g. Switched DS-1 lines served by HDSL2 (other than ISDN PRI)
h. Switched DS-1 lines served by g.shdsl (other than ISDN PRI)
i. Switched DS-1 lines served by Fiber (other than ISDN PRI)
j. All other switched DS-1 lines
k. Payphone lines
l. ISDN-PRI lines
m. ISDN-BRI lines (or equivalent IDSL)
n. Non-switched non-multiplexed digital (DS-0 or lower) and analog 2-wire lines
o. Non-switched non-multiplexed digital (DS-0 or lower) and analog 4-wire lines
p. Non-switched 2-wire UNE-L lines (including lines used to support xDSL)
q. Non-switched 4-wire UNE-L Lines (including lines used to support xDSL)
r. Non-switched DS-1 lines served by conventional T1 technology
s. Non-switched DS-1 lines served by HDSL

t. Non-switched DS-1 lines served by HDSL2
u. Non-switched DS-1 lines served by g.shdsl
v. Non-switched DS-1 lines served by Fiber
w. All other non-switched DS-1 lines
x. Switched DS-3 services
y. Non-switched DS-3 services
z. Analog PBX trunks
aa. OCn (SONET)services
bb. High-capacity optical services other than SONET and those included under "switched DS-3 services" and "nonswitched DS-3 services"
cc. Other (with a basic service description)

Please note that all line counts should be provided on a service/physical facility basis (i.e., the total should not reflect voice grade equivalent line counts). Each physical pair should be counted once and only once. Each "other" service identified should have a unique numeric "Ltype."

Data Request No. 2: Please produce all queries, intermediate files, and work papers you used to obtain the data responsive to Data Request No. 1.

Data Request No. 3: Please produce any and all geocoded longitude and latitude data that can be used to determine customer locations, or can be used as a reasonable proxy for customer locations, in the territory served by Verizon in California (for example, actual customer locations, points on the street in front of customer locations, and/or drop terminals). For each location identified by the geocoded data, please provide the following data. Please provide the requested data in a single file, preferably in database format. Please note that the file should include a unique record of the number of lines for each location for each service type. I.e., If a single location has multiple services, please identify each service on a separate line identified with the same RecordID. Please also note that each loop should be reported once and only once.

The following data should be produced for each loop, in the following fields:

Name	Field Format	Description
RecordID*	Alphanumeric	Unique identification for rolling up records. Could be name or other identification.
Longitude	Numeric	The longitude associated with the customer location or proxy for the customer location
Latitude	Numeric	The latitude associated with the customer location or proxy for the customer location
CLLI	8 digit alphanumeric	Serving wire center that loop physically terminates at as an 8 digit CLLI code. For foreign exchange lines, the CLLI should be for the location of the physical termination of the loop on the MDF or its equivalent – not the wire center that is providing dial tone.
Switched	True/False	Logical identifier indicating if the service is a switched service (switched = true, nonswitched = false)
FX Indicator	True/False	Logical identifier indicating if the service is a foreign exchange service (fx = true, otherwise = false)

Name	Field Format	Description
Special Access Indicator	True/False	Logical identifier indicating if the non-switched service is a special access service (special access = true, otherwise = false)
IOT Indicator	True/False	Logical identifier indicating if the service requires Verizon interoffice transport (including UNE transport) (requires IOT = true, otherwise = false)
Fiber Premise Terminator Indicator	True/False	Logical identifier indicating if the service terminates on fiber at the customer premises (terminates fiber at the customer premises = true, otherwise = false)
Intra-building Indicator	True/False	Logical identifier indicating if the FDI (feeder-distribution interface) serving the customer is within or immediately adjacent to the building within which the customer is located such that the distribution cable is non-existent or consists entirely of intra-building wiring. (Intra-building wiring /no distribution = true; distribution = false).
Distribution Facility Indicator	True/False	When the Intra-building indicator is true, indicates whether Verizon-owned intrabuilding cable is part of the service. (Verizon owned = true; otherwise= false.)
Multiple Service Indicator	True/False	Logical identifier applicable to services terminating fiber at the customer premises that indicates if the same physical terminating fiber(s) are used to carry multiple services (fiber terminating at the customer premises carriers multiple services = true, otherwise = false)
DSL Indicator	True/False	Logical identifier indicating if DSL services are provided on the loop in combination with POTS services. (DSL = True; no DSL=not true).
NlinesType	Numeric	Number of lines for this Ltype for this customer and location
Ltype	Alpha	Service type indicator. Indicate which of descriptions a-y below identifies the type of service provided on the loop.

* Service type indicator (Verizon can use any unique numeric indicator for each of the following service types as long as it provides a key to those indicators):

a. Switched Basic Residential lines (all voice grade service lines including retail, UNE (all types including UNE-P) and resale and including lines with DSL service and POTS on the same loop)
b. Switched Basic Business lines (all voice grade service lines other than Centrex lines including retail, UNE (all types including UNE-P) and resale and including lines with DSL service and POTS on the same loop)
c. Centrex
d. Switched digital lines at below DS-1 rates (if more than one service rate is provided, identify each rate provided and indicate which rate is applicable to the corresponding loop).

e. Switched DS-1 lines served by conventional T1 technology (other than ISDN PRI)
f. Switched DS-1 lines served by HDSL (other than ISDN PRI)
g. Switched DS-1 lines served by HDSL2 (other than ISDN PRI)
h. Switched DS-1 lines served by g.shdsl (other than ISDN PRI)
i. Switched DS-1 lines served by Fiber (other than ISDN PRI)
j. All other switched DS-1 lines
k. Payphone lines
l. ISDN-PRI lines
m. ISDN-BRI lines (or equivalent IDSL)
n. Non-switched non-multiplexed digital (DS-0 or lower) and analog 2-wire lines
o. Non-switched non-multiplexed digital (DS-0 or lower) and analog 4-wire lines
p. Non-switched 2-wire UNE-L lines (including lines used to support xDSL)
q. Non-switched 4-wire UNE-L Lines (including lines used to support xDSL)
r. Non-switched DS-1 lines served by conventional T1 technology
s. Non-switched DS-1 lines served by HDSL
t. Non-switched DS-1 lines served by HDSL2
u. Non-switched DS-1 lines served by g.shdsl
v. Non-switched DS-1 lines served by Fiber
w. All other non-switched DS-1 lines
x. Switched DS-3 services
y. Non-switched DS-3 services
z. Analog PBX trunks
aa. OCn (SONET)services
bb. High-capacity optical services other than SONET and those included under "switched DS-3 services" and "nonswitched DS-3 services
cc. Other (with a basic service description)

Please note that all line counts should be provided on a service/physical facility basis (i.e., the total should not reflect voice grade equivalent line counts). Each physical pair should be counted once and only once. Each "other" service identified should have a unique numeric "Ltype."

Data Request No. 4: Please describe in detail what the geocoded locations identified by Verizon in response to Data Request 3 are intended to represent (i.e. N ID location; corner of lot; center of street; drop, etc.).

Data Request No. 5: Please describe in detail the process that Verizon used to geocode the customer locations, or proxies for customer locations, it provided in response to Data Request No. 3..

Data Request No. 6: Please provide wire center boundaries in MapInfo format that match up with the customer locations and CLLI codes provided in Verizon's Response to Data Requests Nos. 1-3.

Data Request No. 7: For each and every customer location provided in Verizon's Response to Data Requests Nos. 1-3 that is identified as being terminated at a specific central office (represented by the CLLI code) but falls outside of that wire center's boundary file as provided in Verizon's Response to Data Request No. 6, please explain why the customer location is outside the boundary.

Data Request No. 8: Please provide the following for every Verizon switch in California:

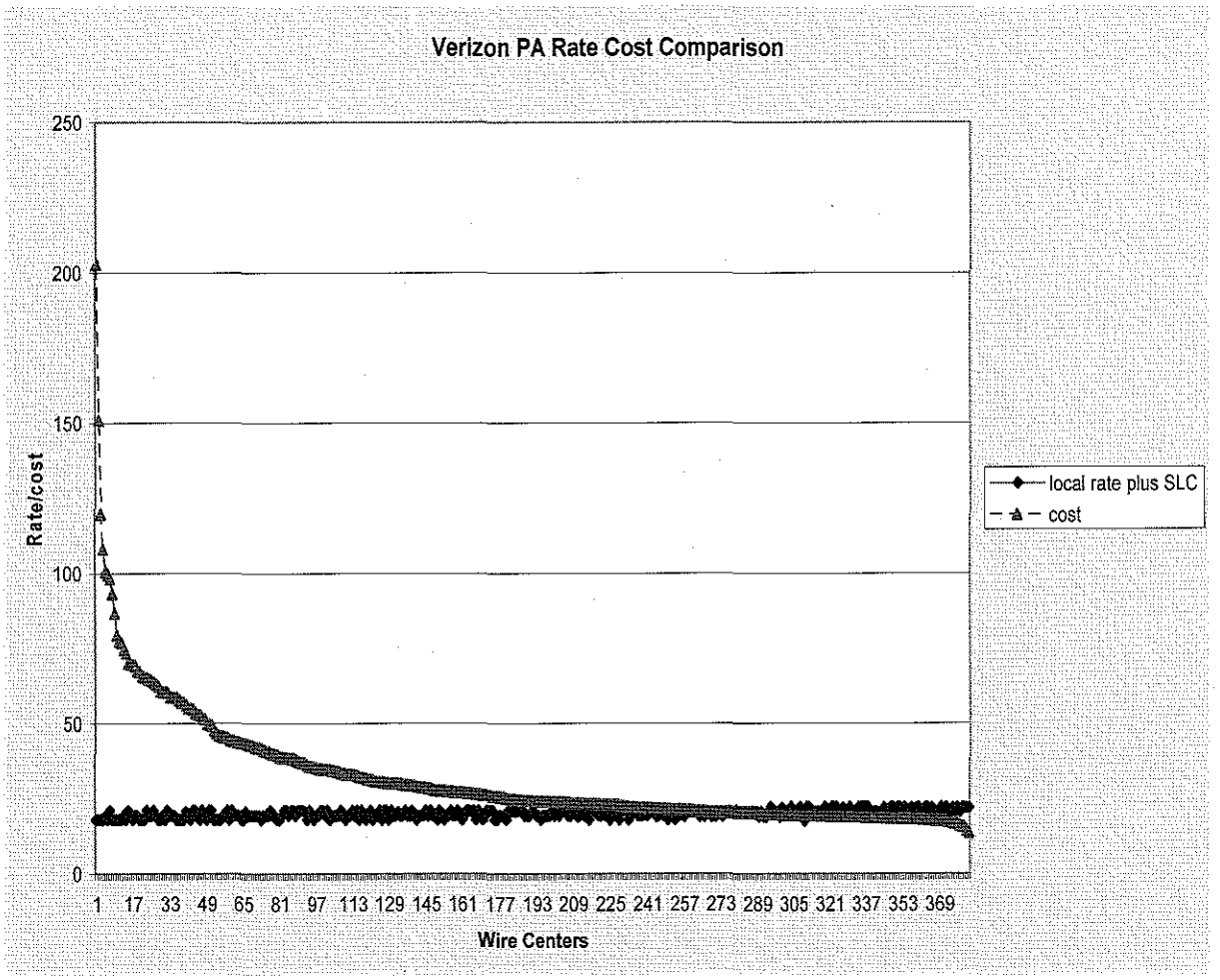
(a) 11-digit CLLI Code
(b) Street address
(c) City (full city name)
(d) State
(e) Zip code
(f) geocoded longitude
(g) geocoded latitude
(h) switch type (i.e., host, remote, stand-alone, tandem)
(i) identification of the host for each remote switch
(j) identification of the tandem for each host or stand-alone switch
(k) switch manufacturer
(l) switch model

Data Request No. 9: For each California central office identify each inter-office facility by facility type (i.e. DS3, OCn) and state whether the facility is handling switched or non-switched services. The response should include the CLLI code for each office connected by the IOF.

Data Request No. 10: Please identify the Verizon databases that contain the following data:

(a) Customer addresses (including but not limited to zip codes) for switched services
(b) Customer addresses (including but not limited to zip codes) for non-switched services
(c) Estimates of the cost of performing planned outside plant construction projects.
(d) Design specifications for new outside plant construction projects.
(e) Actual costs of performing outside plant construction projects.
(f) Vendor prices for outside plant construction projects.
(g) The current cost of procuring material and equipment (for each type of material).
(h) A listing of all contracts governing the purchasing of materials and the use of outside contractors and engineers.
(i) Detailed financial information (i.e. investment, expenses, etc.) regarding Verizon's network.
(j) Labor rates

APPENDIX C


Verizon PA Rate Cost Comparison
250
200
150
100
50
0
Rate/cost
1 17 33 49 65 81 97 113 129 145 161 177 193 209 225 241 257 273 289 305 321 337 353 369
Wire Centers
local rate plus SLC
cost